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SEQUENCE LISTING

<110> Scharenberg, Andrew

<120> CHARACTERIZATION OF THE SOC/CRAC CALCIUM CHANNEL PROTEIN FAMILY

<130> B0662/7026/ERP/KA

<140> US 09/869,486

<141> 1999-12-20

<150> US 60/114,220

<151> 1998-12-30

<150> US 60/120,018

<151> 1999-01-29

<150> US 60/140,415

<151> 1999-06-22

<150> PCT/US99/29996

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<170> PatentIn version 3.0

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<400> 11

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<400> 12

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His	Trp	Gly	Leu	Asp	Val	Pro	Asn	Leu	Leu	Ile	Ser	Val	Thr	Gly
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Ala	Lys	Asn	Phe	Asn	Met	Lys	Pro	Arg	Leu	Lys	Ser	Ile	Phe	Arg

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[illegible]

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Val Asp Leu Leu Asp Leu	Asp Pro Leu Lys Arg	Ser Gly Ser Met
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Arg Ala Leu His Trp Ile	Val Arg Thr Leu Arg	Ala Ser Gly Phe
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Ser Ser Glu Ala Asp Val	Pro Thr Leu Ala Ser	Gln Lys Ala Ala
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Glu Glu Pro Asp Ala Glu	Pro Gly Gly Arg Lys	Lys Thr Glu Glu
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Pro Gly Asp Ser Tyr His	Val Asn Ala Arg His	Leu Leu Tyr Pro
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Glu Arg Lys Asp Ala Ala	Ala Met Asp Pro Met	Gly Asp Thr Leu
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Asp Arg Arg Ser Phe His	Gly Pro Tyr Thr Val	Gln Ala Gly Leu
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<211> 1816

<212> PRT

<213> Caenorhabditis elegans

<400> 13

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			100					105					110			
Glu	Thr	Glu	Thr	Gln	Thr	Lys	Arg	Arg	Arg	Lys	Lys	Gln	Arg	Ser	Thr	
		115					120					125				
Ser	Ser	Asp	Lys	Ala	Pro	Leu	Asn	Ser	Ala	Pro	Arg	His	Val	Gln	Lys	
	130					135					140					
Phe	Asp	Trp	Lys	Asp	Met	Leu	His	Leu	Ala	Asp	Ile	Ser	Gly	Arg	Lys	
145					150					155					160	
Arg	Gly	Asn	Ser	Thr	Ser	His	Ser	Gly	His	Ala	Thr	Arg	Ala	Gly		
				165				170						175		
Ser	Leu	Lys	Gly	Lys	Asn	Trp	Ile	Glu	Cys	Arg	Leu	Lys	Met	Arg	Gln	
			180					185					190			
Cys	Ser	Tyr	Phe	Val	Pro	Ser	Gln	Arg	Phe	Ser	Glu	Arg	Cys	Gly	Cys	
	195						200					205				
Gly	Lys	Glu	Arg	Ser	Lys	His	Thr	Glu	Glu	Val	Leu	Glu	Arg	Ser	Gln	
	210					215					220					
Asn	Lys	Asn	His	Pro	Leu	Asn	His	Leu	Thr	Leu	Pro	Gly	Ile	His	Glu	
225					230					235					240	
Val	Asp	Thr	Thr	Asp	Ala	Asp	Ala	Asp	Asp	Asn	Glu	Val	Asn	Leu	Thr	
				245				250						255		
Pro	Gly	Arg	Trp	Ser	Ile	Gln	Ser	His	Thr	Glu	Ile	Val	Pro	Thr	Asp	
			260					265					270			
Ala	Tyr	Gly	Asn	Ile	Val	Phe	Glu	Gly	Thr	Ala	His	His	Ala	Gln	Tyr	
	275						280					285				
Ala	Arg	Ile	Ser	Phe	Asp	Ser	Asp	Pro	Arg	Asp	Ile	Val	His	Leu	Met	
	290					295					300					
Met	Lys	Val	Trp	Lys	Leu	Lys	Pro	Pro	Lys	Leu	Ile	Ile	Thr	Ile	Asn	
305					310					315					320	
Gly	Gly	Leu	Thr	Lys	Phe	Asp	Leu	Gln	Pro	Lys	Leu	Ala	Arg	Thr	Phe	
				325					330					335		
Arg	Lys	Gly	Ile	Met	Lys	Ile	Ala	Lys	Ser	Thr	Asp	Ala	Trp	Ile	Ile	
			340					345					350			
Thr	Ser	Gly	Leu	Asp	Glu	Gly	Val	Val	Lys	His	Leu	Asp	Ser	Ala	Leu	
		355					360					365				
His	Ala	Leu	Glu	Phe	Trp	Ser	Phe	Gly	Leu	Phe	Trp	Val	Ile	Gln	Leu	
	370					375					380					
Asp	Val	Leu	Leu	Ala	His	Ser	Met	Phe	Ile	Pro	Arg	Gly	Ser	Leu	Phe	
385					390					395					400	
Asp	His	Gly	Asn	His	Thr	Ser	Lys	Asn	His	Val	Val	Ala	Ile	Gly	Ile	
				405					410					415		
Ala	Ser	Trp	Gly	Met	Leu	Lys	Gln	Arg	Ser	Arg	Phe	Val	Gly	Lys	Asp	
			420					425					430			
Ser	Thr	Val	Thr	Tyr	Ala	Thr	Asn	Val	Phe	Asn	Asn	Thr	Arg	Leu	Lys	
		435					440					445				
Glu	Leu	Asn	Asp	Asn	His	Ser	Tyr	Phe	Leu	Phe	Ser	Asp	Asn	Gly	Thr	
	450					455					460					
Val	Asn	Arg	Tyr	Gly	Ala	Glu	Ile	Ile	Met	Arg	Lys	Arg	Leu	Glu	Ala	

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465					470					475				480
Tyr	Leu	Ala	Gln	Gly	Asp	Lys	Lys	Arg	Ser	Ala	Ile	Pro	Leu	Val
				485					490					495
Val	Val	Leu	Glu	Gly	Gly	Ala	Phe	Thr	Ile	Lys	Met	Val	His	Asp
			500					505					510	Tyr
Val	Thr	Thr	Ile	Pro	Arg	Ile	Pro	Val	Ile	Val	Cys	Asp	Gly	Ser
		515					520				525			Gly
Arg	Ala	Ala	Asp	Ile	Leu	Ala	Phe	Ala	His	Gln	Ala	Val	Ser	Gln
	530					535					540			Asn
Gly	Phe	Leu	Ser	Asp	Asn	Ile	Arg	Asn	Gln	Leu	Val	Asn	Ile	Val
545				550						555				560
Arg	Ile	Phe	Gly	Tyr	Asp	Pro	Lys	Thr	Ala	Gln	Lys	Leu	Ile	Lys
			565					570						575
Ile	Val	Glu	Cys	Ser	Thr	Asn	Lys	Ser	Leu	Met	Thr	Ile	Phe	Arg
		580						585				590		Leu
Gly	Glu	Ser	Ser	Arg	Glu	Asp	Leu	Asp	His	Val	Ile	Met	Ser	Cys
		595				600						605		Leu
Leu	Lys	Gly	Gln	Asn	Leu	Ser	Pro	Pro	Glu	Gln	Leu	Gln	Leu	Ala
	610					615						620		Leu
Ala	Trp	Asn	Arg	Ala	Asp	Ile	Ala	Arg	Thr	Glu	Ile	Phe	Ala	Asn
625				630						635				640
Thr	Glu	Trp	Thr	Thr	Gln	Asp	Leu	His	Asn	Ala	Met	Ile	Glu	Ala
			645						650				655	Leu
Ser	Asn	Asp	Arg	Ile	Asp	Phe	Val	His	Leu	Leu	Leu	Glu	Asn	Gly
		660						665					670	Val
Ser	Met	Gln	Lys	Phe	Leu	Thr	Tyr	Gly	Arg	Leu	Glu	His	Leu	Tyr
	675						680					685		Asn
Thr	Asp	Lys	Gly	Pro	Gln	Asn	Thr	Leu	Arg	Thr	Asn	Leu	Leu	Val
	690				695						700			Asp
Ser	Lys	His	His	Ile	Lys	Leu	Val	Glu	Val	Gly	Arg	Leu	Val	Glu
705				710						715				720
Leu	Met	Gly	Asn	Leu	Tyr	Lys	Ser	Asn	Tyr	Thr	Lys	Glu	Glu	Phe
			725						730					735
Asn	Gln	Tyr	Phe	Leu	Phe	Asn	Asn	Arg	Lys	Gln	Phe	Gly	Lys	Arg
		740						745					750	Val
His	Ser	Asn	Ser	Asn	Gly	Gly	Arg	Asn	Asp	Val	Ile	Gly	Pro	Ser
		755					760					765		Gly
Asp	Ala	Gly	Arg	Glu	Arg	Met	Ser	Ser	Met	Gln	Ile	Ser	Leu	Ile
	770					775					780			Asn
Asn	Ala	Arg	Asn	Ser	Ile	Ile	Ser	Leu	Phe	Asn	Gly	Gly	Gly	Arg
785					790					795				800
Arg	Glu	Ser	Asp	Asp	Glu	Asp	Asp	Phe	Ser	Asn	Leu	Glu	Glu	Glu
			805					810						815
Asn	Met	Asp	Phe	Thr	Phe	Arg	Tyr	Pro	Tyr	Ser	Asp	Leu	Met	Ile
		820						825					830	Trp
Ala	Val	Leu	Thr	Lys	Arg	Gln	Lys	Met	Ala	Lys	Leu	Met	Trp	Thr
		835					840					845		His
Gly	Glu	Glu	Gly	Met	Ala	Lys	Ala	Leu	Val	Ala	Ser	Arg	Leu	Tyr
	850					855					860			Val
Ser	Leu	Ala	Lys	Thr	Ala	Ser	Leu	Ala	Thr	Gly	Glu	Ile	Gly	Met
865					870					875				880
Gln	Asp	Phe	Thr	Glu	Phe	Ser	Asp	Glu	Phe	Ser	Glu	Leu	Ala	Val
				885					890					895
Val	Leu	Glu	Tyr	Cys	Thr	Lys	His	Gly	Arg	Asp	Gln	Thr	Leu	Arg
		900						905					910	Leu
Leu	Thr	Cys	Glu	Leu	Ala	Asn	Trp	Gly	Asp	Glu	Thr	Cys	Leu	Ser
	915						920					925		Leu
Ala	Ala	Asn	Asn	Gly	His	Arg	Lys	Phe	Leu	Ala	His	Pro	Cys	Cys
	930					935					940			Gln

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Met	Leu	Leu	Ser	Asp	Leu	Trp	Gln	Gly	Gly	Leu	Leu	Met	Lys	Asn	Asn
945					950					955					960
Gln	Asn	Ser	Lys	Val	Leu	Thr	Cys	Leu	Ala	Ala	Pro	Pro	Leu	Ile	Phe
			965						970					975	
Leu	Leu	Gly	Phe	Lys	Thr	Lys	Glu	Gln	Leu	Met	Leu	Gln	Pro	Lys	Thr
		980					985					990			
Ala	Ala	Glu	His	Asp	Glu	Glu	Met	Ser	Asp	Ser	Glu	Met	Asn	Ser	Ala
		995					1000					1005			
Glu	Asp	Thr	Asp	Thr	Ser	Ser	Asp	Ser	Ser	Ser	Asp	Ser	Asp	Asp	
	1010					1015					1020				
Ser	Asp	Glu	Glu	Asp	Ala	Lys	Leu	Arg	Ala	Gln	Ser	Leu	Ser	Ala	
	1025					1030					1035				
Asp	Gln	Pro	Leu	Ser	Ile	His	Arg	Leu	Val	Arg	Asp	Lys	Leu	Asn	
	1040					1045					1050				
Phe	Ser	Glu	Lys	Lys	Lys	Pro	Asp	Met	Gly	Ile	Ser	Arg	Ile	Val	
	1055					1060					1065				
Val	Ala	Pro	Pro	Ile	Val	Thr	Gly	Arg	Asn	Arg	Ala	Arg	Thr	Met	
	1070					1075					1080				
Ser	Ile	Lys	Lys	Ser	Lys	Lys	Asn	Val	Ile	Lys	Pro	Pro	Ala	Cys	
	1085					1090					1095				
Leu	Lys	Ile	Glu	Thr	Ser	Asp	Asp	Asp	Glu	Gln	Glu	Gln	Lys	Lys	
	1100					1105					1110				
Ala	Thr	Glu	Met	Cys	Lys	Ser	Thr	Phe	Phe	Asp	Phe	Phe	Phe	Asp	
	1115					1120					1125				
Phe	Pro	Tyr	Ile	Asn	Arg	Thr	Gly	Lys	Arg	Gly	Ser	Val	Ala	Val	
	1130					1135					1140				
Ala	Met	Asn	His	Asp	Asp	Met	Tyr	Ile	Asp	Pro	Ser	Glu	Glu	Leu	
	1145					1150					1155				
Asp	Thr	Gln	Thr	Arg	Gln	Lys	Ser	Ser	Arg	Glu	Phe	Ser	Ser	Ser	
	1160					1165					1170				
Arg	Asn	Val	Thr	Val	Gln	Val	Tyr	Thr	Gln	Arg	Pro	Leu	Ser	Trp	
	1175					1180					1185				
Lys	Lys	Lys	Ile	Met	Glu	Phe	Tyr	Lys	Ala	Pro	Ile	Thr	Thr	Tyr	
	1190					1195					1200				
Trp	Leu	Trp	Phe	Phe	Ala	Phe	Ile	Trp	Phe	Leu	Ile	Leu	Leu	Thr	
	1205					1210					1215				
Tyr	Asn	Leu	Leu	Val	Lys	Thr	Gln	Arg	Ile	Ala	Ser	Trp	Ser	Glu	
	1220					1225					1230				
Trp	Tyr	Val	Phe	Ala	Tyr	Ile	Phe	Val	Trp	Thr	Leu	Glu	Ile	Gly	
	1235					1240					1245				
Arg	Lys	Val	Val	Ser	Thr	Ile	Met	Met	Asp	Thr	Ser	Lys	Pro	Val	
	1250					1255					1260				
Leu	Lys	Gln	Leu	Arg	Val	Phe	Phe	Phe	Gln	Tyr	Arg	Asn	Gly	Leu	
	1265					1270					1275				
Leu	Ala	Phe	Gly	Leu	Leu	Thr	Tyr	Leu	Ile	Ala	Tyr	Phe	Ile	Arg	
	1280					1285					1290				
Leu	Ser	Pro	Thr	Thr	Lys	Thr	Leu	Gly	Arg	Ile	Leu	Ile	Ile	Cys	
	1295					1300					1305				
Asn	Ser	Val	Ile	Trp	Ser	Leu	Lys	Leu	Val	Asp	Tyr	Leu	Ser	Val	
	1310					1315					1320				
Gln	Gln	Gly	Leu	Gly	Pro	Tyr	Ile	Asn	Ile	Val	Ala	Glu	Met	Ile	
	1325					1330					1335				
Pro	Thr	Met	Ile	Pro	Leu	Cys	Val	Leu	Val	Phe	Ile	Thr	Leu	Tyr	
	1340					1345					1350				
Ala	Phe	Gly	Leu	Leu	Arg	Gln	Ser	Ile	Thr	Tyr	Pro	Tyr	Glu	Asp	
	1355					1360					1365				
Trp	His	Trp	Ile	Leu	Val	Arg	Asn	Ile	Phe	Leu	Gln	Pro	Tyr	Phe	
	1370					1375					1380				

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Met	Leu	Tyr	Gly	Glu	Val	Tyr	Ala	Ala	Glu	Ile	Asp	Thr	Cys	Gly
1385						1390					1395			
Asp	Glu	Ile	Trp	Gln	Thr	His	Glu	Asp	Glu	Asn	Ile	Pro	Ile	Ser
1400						1405					1410			
Met	Leu	Asn	Val	Thr	His	Glu	Thr	Cys	Val	Pro	Gly	Tyr	Trp	Ile
1415						1420					1425			
Ala	Pro	Val	Gly	Leu	Thr	Val	Phe	Met	Leu	Ala	Thr	Asn	Val	Leu
1430						1435					1440			
Leu	Met	Asn	Val	Met	Val	Ala	Gly	Cys	Thr	Tyr	Ile	Phe	Glu	Lys
1445						1450					1455			
His	Ile	Gln	Ser	Thr	Arg	Glu	Ile	Phe	Leu	Phe	Glu	Arg	Tyr	Gly
1460						1465					1470			
Gln	Val	Met	Glu	Tyr	Glu	Ser	Thr	Pro	Trp	Leu	Pro	Pro	Pro	Phe
1475						1480					1485			
Thr	Ile	Ile	Tyr	His	Val	Ile	Trp	Leu	Phe	Lys	Leu	Ile	Lys	Ser
1490						1495					1500			
Ser	Ser	Arg	Met	Phe	Glu	Arg	Lys	Asn	Leu	Phe	Asp	Gln	Ser	Leu
1505						1510					1515			
Lys	Leu	Phe	Leu	Ser	Pro	Asp	Glu	Met	Glu	Lys	Val	His	Thr	Phe
1520						1525					1530			
Glu	Glu	Glu	Ser	Val	Glu	Asp	Met	Lys	Arg	Glu	Thr	Glu	Lys	Lys
1535						1540					1545			
Asn	Leu	Ser	Ser	Asn	Asp	Glu	Arg	Ile	His	Arg	Thr	Ala	Glu	Arg
1550						1555					1560			
Thr	Asp	Ala	Ile	Leu	Asn	Arg	Val	Ser	His	Leu	Thr	Gln	Leu	Glu
1565						1570					1575			
Phe	Thr	Leu	Lys	Glu	Glu	Ile	Arg	Glu	Leu	Glu	His	Lys	Met	Lys
1580						1585					1590			
Asn	Met	Asp	Ser	Arg	His	Lys	Glu	Gln	Met	Asn	Leu	Met	Leu	Asp
1595						1600					1605			
Met	Asn	Lys	Lys	Leu	Gly	Lys	Phe	Ile	Ser	Gly	Lys	Tyr	Lys	Arg
1610						1615					1620			
Gly	Ser	Phe	Gly	Gly	Ser	Gly	Ser	Asp	Gly	Gly	Gly	Gly	Ser	Ser
1625						1630					1635			
Asp	Asn	Ser	Lys	Leu	Glu	Pro	Asn	Asn	Ser	Val	Pro	Met	Ile	Thr
1640						1645					1650			
Val	Asp	Gly	Pro	Ser	Pro	Ile	Gly	Ser	Arg	Arg	Thr	Ser	Gly	Gln
1655						1660					1665			
Tyr	Leu	Lys	Arg	Asp	Ser	Leu	Gln	Ala	Lys	Lys	Lys	Ile	Thr	Glu
1670						1675					1680			
Asn	Arg	Arg	Ser	Ser	Leu	Glu	Gln	Pro	Lys	Ile	Pro	Ser	Ile	Gln
1685						1690					1695			
Phe	Asn	Leu	Met	Glu	Asp	Gln	Asp	Glu	Ser	Ala	Ala	Glu	Ser	Ala
1700						1705					1710			
Thr	Glu	Glu	Val	Ser	Ile	Ser	Ile	Pro	Val	Pro	Gln	Met	Arg	Val
1715						1720					1725			
Arg	Gln	Val	Thr	Glu	Ser	Asp	Lys	Ser	Asp	Leu	Ser	Glu	Asp	Asp
1730						1735					1740			
Leu	Ile	Thr	Arg	Glu	Asp	Ala	Pro	Pro	Thr	Ser	Ile	Asn	Leu	Pro
1745						1750					1755			
Arg	Gly	Pro	Arg	Arg	His	Ala	Leu	Tyr	Ser	Thr	Ile	Ala	Asp	Ala
1760						1765					1770			
Ile	Glu	Thr	Glu	Asp	Asp	Phe	Tyr	Ala	Asp	Ser	Pro	Val	Pro	Met
1775						1780					1785			
Pro	Met	Thr	Pro	Val	Gln	Pro	Ala	Asp	Gly	Ser	Phe	Phe	Gly	Glu
1790						1795					1800			
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 <211> 1387
 <212> PRT
 <213> Caenorhabditis elegans

<400> 14
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 Ile Glu Asn Ile Arg His Arg Thr Ser Ser Phe Leu Arg Leu Leu Asn
 20 25 30
 Ala Pro Arg Asn Ser Met Cys Asn Ala Asn Thr Val His Ser Ile Ser
 35 40 45
 Ser Phe Arg Ser Asp His Leu Ser Arg Lys Ser Thr His Lys Phe Leu
 50 55 60
 Asp Asn Pro Asn Leu Phe Ala Ile Glu Leu Thr Glu Lys Leu Ser Pro
 65 70 75 80
 Pro Trp Ile Glu Asn Thr Phe Glu Lys Arg Glu Cys Ile Arg Phe Ala
 85 90 95
 Ala Leu Pro Lys Asp Pro Glu Arg Cys Gly Cys Gly Arg Pro Leu Ser
 100 105 110
 Ala His Thr Pro Ala Ser Thr Phe Phe Ser Thr Leu Pro Val His Leu
 115 120 125
 Leu Glu Lys Glu Gln Gln Thr Trp Thr Ile Ala Asn Asn Thr Gln Thr
 130 135 140
 Ser Thr Thr Asp Ala Phe Gly Thr Ile Val Phe Gln Gly Gly Ala His
 145 150 155 160
 Ala His Lys Ala Gln Tyr Val Arg Leu Ser Tyr Asp Ser Glu Pro Leu
 165 170 175
 Asp Val Met Tyr Leu Met Glu Lys Val Trp Gly Leu Glu Ala Pro Arg
 180 185 190
 Leu Val Ile Thr Val His Gly Gly Met Ser Asn Phe Glu Leu Glu Glu
 195 200 205
 Arg Leu Gly Arg Leu Phe Arg Lys Gly Met Leu Lys Ala Ala Gln Thr
 210 215 220
 Thr Gly Ala Trp Ile Ile Thr Ser Gly Leu Asp Ser Gly Val Val Arg
 225 230 235 240
 His Val Ala Lys Ala Leu Asp Glu Ala Gly Ile Ser Ala Arg Met Arg
 245 250 255
 Ser Gln Ile Val Thr Ile Gly Ile Ala Pro Trp Gly Val Ile Lys Arg
 260 265 270
 Lys Glu Arg Leu Ile Arg Gln Asn Glu His Val Tyr Tyr Asp Val His
 275 280 285
 Ser Leu Ser Val Asn Ala Asn Val Gly Ile Leu Asn Asp Arg His Ser
 290 295 300
 Tyr Phe Leu Leu Ala Asp Asn Gly Thr Val Gly Arg Phe Gly Ala Asp
 305 310 315 320
 Leu His Leu Arg Gln Asn Leu Glu Asn His Ile Ala Thr Phe Gly Cys
 325 330 335
 Asn Gly Arg Lys Val Pro Val Val Cys Thr Leu Leu Glu Gly Gly Ile
 340 345 350
 Ser Ser Ile Asn Ala Ile His Asp Tyr Val Thr Met Lys Pro Asp Ile
 355 360 365
 Pro Ala Ile Val Cys Asp Gly Ser Gly Arg Ala Ala Asp Ile Ile Ser
 370 375 380
 Phe Ala Ala Arg Tyr Ile Asn Ser Asp Gly Thr Phe Ala Ala Glu Val
 385 390 395 400
 Gly Glu Lys Leu Arg Asn Leu Ile Lys Met Val Phe Pro Glu Thr Asp
 405 410 415
 Gln Glu Glu Met Phe Arg Lys Ile Thr Glu Cys Val Ile Arg Asp Asp

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			420				425				430				
Leu	Leu	Arg	Ile	Phe	Arg	Tyr	Gly	Gln	Glu	Glu	Glu	Glu	Asp	Val	Asp
		435					440				445				
Phe	Val	Ile	Leu	Ser	Thr	Val	Leu	Gln	Lys	Gln	Asn	Leu	Pro	Pro	Asp
	450					455					460				
Glu	Gln	Leu	Ala	Leu	Thr	Leu	Ser	Trp	Asn	Arg	Val	Asp	Leu	Ala	Lys
465					470					475					480
Ser	Cys	Leu	Phe	Ser	Asn	Gly	Arg	Lys	Trp	Ser	Ser	Asp	Val	Leu	Glu
				485				490						495	
Lys	Ala	Met	Asn	Asp	Ala	Leu	Tyr	Trp	Asp	Arg	Val	Asp	Phe	Val	Glu
			500					505					510		
Cys	Leu	Leu	Glu	Asn	Gly	Val	Ser	Met	Lys	Asn	Phe	Leu	Ser	Ile	Asn
	515						520					525			
Arg	Leu	Glu	Asn	Leu	Tyr	Asn	Met	Asp	Asp	Ile	Asn	Ser	Ala	His	Ser
	530					535					540				
Val	Arg	Asn	Trp	Met	Glu	Asn	Phe	Asp	Ser	Met	Asp	Pro	His	Thr	Tyr
545					550					555					560
Leu	Thr	Ile	Pro	Met	Ile	Gly	Gln	Val	Val	Glu	Lys	Leu	Met	Gly	Asn
				565				570						575	
Ala	Phe	Gln	Leu	Tyr	Tyr	Thr	Ser	Arg	Ser	Phe	Lys	Gly	Lys	Tyr	Asp
			580					585					590		
Arg	Tyr	Lys	Arg	Ile	Asn	Gln	Ser	Ser	Tyr	Phe	His	Arg	Lys	Arg	Lys
		595					600					605			
Ile	Val	Gln	Lys	Glu	Leu	Phe	Lys	Lys	Lys	Ser	Asp	Asp	Gln	Ile	Asn
	610					615					620				
Asp	Asn	Glu	Glu	Glu	Asp	Phe	Ser	Phe	Ala	Tyr	Pro	Phe	Asn	Asp	Leu
625					630					635					640
Leu	Ile	Trp	Ala	Val	Leu	Thr	Ser	Arg	His	Gly	Met	Ala	Glu	Cys	Met
				645					650					655	
Trp	Val	His	Gly	Glu	Asp	Ala	Met	Ala	Lys	Cys	Leu	Leu	Ala	Ile	Arg
			660					665					670		
Leu	Tyr	Lys	Ala	Thr	Ala	Lys	Ile	Ala	Glu	Asp	Glu	Tyr	Leu	Asp	Val
		675					680					685			
Glu	Glu	Ala	Lys	Arg	Leu	Phe	Asp	Asn	Ala	Val	Lys	Cys	Arg	Glu	Asp
	690					695					700				
Ala	Ile	Glu	Leu	Leu	Asp	Gln	Cys	Tyr	Arg	Ala	Asp	His	Asp	Arg	Thr
705					710					715					720
Leu	Arg	Leu	Leu	Arg	Met	Glu	Leu	Pro	His	Trp	Gly	Asn	Asn	Asn	Cys
				725					730					735	
Leu	Ser	Leu	Ala	Val	Leu	Ala	Asn	Thr	Lys	Thr	Phe	Leu	Ala	His	Pro
			740					745					750		
Cys	Cys	Gln	Ile	Leu	Leu	Ala	Glu	Leu	Trp	His	Gly	Ser	Leu	Lys	Val
		755					760					765			
Arg	Ser	Gly	Ser	Asn	Val	Arg	Val	Leu	Thr	Ala	Leu	Ile	Cys	Pro	Pro
	770														

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Trp Cys Ile Ala Phe Leu Ile Phe Leu Thr Thr Gln Thr Cys Ile Leu
 900 905 910
 Leu Leu Glu Thr Ser Leu Lys Pro Ser Lys Tyr Glu Trp Ile Thr Phe
 915 920 925
 Ile Tyr Thr Val Thr Leu Ser Val Glu His Ile Arg Lys Leu Met Thr
 930 935 940
 Ser Glu Gly Ser Arg Ile Asn Glu Lys Val Lys Val Phe Tyr Ala Lys
 945 950 955 960
 Trp Tyr Asn Ile Trp Thr Ser Ala Ala Leu Leu Phe Phe Leu Val Gly
 965 970 975
 Tyr Gly Phe Arg Leu Val Pro Met Tyr Arg His Ser Trp Gly Arg Val
 980 985 990
 Leu Leu Ser Phe Ser Asn Val Leu Phe Tyr Met Lys Ile Phe Glu Tyr
 995 1000 1005
 Leu Ser Val His Pro Leu Leu Gly Pro Tyr Ile Gln Met Ala Ala
 1010 1015 1020
 Lys Met Val Trp Ser Met Cys Tyr Ile Cys Val Leu Leu Leu Val
 1025 1030 1035
 Pro Leu Met Ala Phe Gly Val Asn Arg Gln Ala Leu Thr Glu Pro
 1040 1045 1050
 Asn Val Lys Asp Trp His Trp Leu Leu Val Arg Asn Ile Phe Tyr
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 Lys Pro Tyr Phe Met Leu Tyr Gly Glu Val Tyr Ala Gly Glu Ile
 1070 1075 1080
 Asp Thr Cys Gly Asp Glu Gly Ile Arg Cys Phe Pro Gly Tyr Phe
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 Ile Pro Pro Leu Leu Met Val Ile Phe Leu Leu Val Ala Asn Ile
 1100 1105 1110
 Leu Leu Leu Asn Leu Leu Ile Ala Ile Phe Asn Asn Ile Tyr Asn
 1115 1120 1125
 Asp Ser Ile Glu Lys Ser Lys Glu Ile Trp Leu Phe Gln Arg Tyr
 1130 1135 1140
 Gln Gln Leu Met Glu Tyr His Asp Ser Pro Phe Leu Pro Pro Pro
 1145 1150 1155
 Phe Ser Ile Phe Ala His Val Tyr His Phe Ile Asp Tyr Leu Tyr
 1160 1165 1170
 Asn Leu Arg Arg Pro Asp Thr Lys Arg Phe Arg Ser Glu His Ser
 1175 1180 1185
 Ile Lys Leu Ser Val Thr Glu Asp Glu Met Lys Arg Ile Gln Asp
 1190 1195 1200
 Phe Glu Glu Asp Cys Ile Asp Thr Leu Thr Arg Ile Arg Lys Leu
 1205 1210 1215
 Lys Leu Asn Thr Lys Glu Pro Leu Ser Val Thr Asp Leu Thr Glu
 1220 1225 1230
 Leu Thr Cys Gln Arg Val His Asp Leu Met Gln Glu Asn Phe Leu
 1235 1240 1245
 Leu Lys Ser Arg Val Tyr Asp Ile Glu Thr Lys Ile Asp His Ile
 1250 1255 1260
 Ser Asn Ser Ser Asp Glu Val Val Gln Ile Leu Lys Asn Lys Lys
 1265 1270 1275
 Leu Ser Gln Asn Phe Ala Ala Ser Ser Leu Ser Leu Pro Asp Thr
 1280 1285 1290
 Ser Ile Glu Val Pro Lys Ile Thr Lys Thr Leu Ile Asp Cys His
 1295 1300 1305
 Leu Ser Pro Val Ser Ile Glu Asp Arg Leu Ala Thr Arg Ser Pro
 1310 1315 1320
 Leu Leu Ala Asn Leu Gln Arg Asp His Thr Leu Arg Lys Leu Pro
 1325 1330 1335
 Thr Trp Glu Thr Ser Thr Ala Ser Thr Ser Ser Phe Glu Phe Val

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1340		1345		1350
Phe Tyr Phe Thr Arg His	Glu Gly Asn Glu Asn Lys Tyr Glu Phe			
1355		1360		1365
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Ser Trp Arg Leu				
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Ala Gly Gly Asp Gly Asn Ala Val Pro Thr Thr Ser Gln Ala Gln Ala	
50 55 60	
Gln Thr Phe Asn Ser Gly Arg Gln Thr Thr Gly Met Ser Ser Gly Asp	
65 70 75 80	
Arg Leu Asn Glu Asp Val Ser Ala Thr Ala Asn Ser Ala Gln Leu Val	
85 90 95	
Leu Pro Thr Pro Leu Phe Asn Gln Met Arg Phe Thr Glu Ser Asn Met	
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Ser Leu Asn Arg His Asn Trp Val Arg Glu Thr Phe Thr Arg Arg Glu	
115 120 125	
Cys Ser Arg Phe Ile Ala Ser Ser Arg Asp Leu His Lys Cys Gly Cys	
130 135 140	
Gly Arg Thr Arg Asp Ala His Arg Asn Ile Pro Glu Leu Thr Ser Glu	
145 150 155 160	
Phe Leu Arg Gln Lys Arg Ser Val Ala Ala Leu Glu Gln Gln Arg Ser	
165 170 175	
Ile Ser Asn Val Asn Asp Asp Ile Asn Thr Gln Asn Met Tyr Thr Lys	
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Arg Gly Ala Asn Glu Lys Trp Ser Leu Arg Lys His Thr Val Ser Leu	
195 200 205	
Ala Thr Asn Ala Phe Gly Gln Val Glu Phe Gln Gly Gly Pro His Pro	
210 215 220	
Tyr Lys Ala Gln Tyr Val Arg Val Asn Phe Asp Thr Glu Pro Ala Tyr	
225 230 235 240	
Ile Met Ser Leu Phe Glu His Val Trp Gln Ile Ser Pro Pro Arg Leu	
245 250 255	
Ile Ile Thr Val His Gly Gly Thr Ser Asn Phe Asp Leu Gln Pro Lys	
260 265 270	
Leu Ala Arg Val Phe Arg Lys Gly Leu Leu Lys Ala Ala Ser Thr Thr	
275 280 285	
Gly Ala Trp Ile Ile Thr Ser Gly Cys Asp Thr Gly Val Val Lys His	
290 295 300	
Val Ala Ala Ala Leu Glu Gly Ala Gln Ser Ala Gln Arg Asn Lys Ile	
305 310 315 320	
Val Cys Ile Gly Ile Ala Pro Trp Gly Leu Leu Lys Lys Arg Glu Asp	
325 330 335	
Phe Ile Gly Gln Asp Lys Thr Val Pro Tyr Tyr Pro Ser Ser Ser Lys	
340 345 350	
Gly Arg Phe Thr Gly Leu Asn Asn Arg His Ser Tyr Phe Leu Leu Val	

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Asp	Asn	Gly	Thr	Val	Gly	Arg	Tyr	Gly	Ala	Glu	Val	Ile	Leu	Arg	Lys	
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Arg	Leu	Glu	Met	Tyr	Ile	Ser	Gln	Lys	Gln	Lys	Ile	Phe	Gly	Gly	Thr	
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Arg	Ser	Val	Pro	Val	Val	Cys	Val	Val	Leu	Glu	Gly	Gly	Ser	Cys	Thr	
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Ile	Arg	Ser	Val	Leu	Asp	Tyr	Val	Thr	Asn	Val	Pro	Arg	Val	Pro	Val	
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Val	Val	Cys	Asp	Gly	Ser	Gly	Arg	Ala	Ala	Asp	Leu	Leu	Ala	Phe	Ala	
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Ala	His	Arg	Leu	Leu	His	Glu	Leu	Thr	Val	Cys	Ala	Gln	His	Lys	Asn	
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	530					535					540					
Ser	Asp	Val	Phe	Ala	Met	Gly	His	Glu	Trp	Pro	Gln	Ala	Ala	Leu	His	
545					550					555					560	
Asn	Ala	Met	Met	Glu	Ala	Leu	Ile	His	Asp	Arg	Val	Asp	Phe	Val	Arg	
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Leu	Leu	Leu	Glu	Gln	Gly	Ile	Asn	Met	Gln	Lys	Phe	Leu	Thr	Ile	Ser	
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Arg	Leu	Asp	Glu	Leu	Tyr	Asn	Thr	Asp	Lys	Gly	Pro	Pro	Asn	Thr	Leu	
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Tyr	Gln	Cys	Ser	Tyr	Thr	Thr	Ser	Glu	Phe	Arg	Asp	Lys	Tyr	Lys	Gln	
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Arg	Met	Lys	Arg	Val	Lys	His	Ala	Gln	Lys	Lys	Ala	Met	Gly	Val	Phe	
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Ser	Ser	Arg	Pro	Ser	Arg	Thr	Gly	Ser	Gly	Ile	Ala	Ser	Arg	Gln	Ser	
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Thr	Glu	Gly	Met	Gly	Gly	Val	Gly	Gly	Gly	Ser	Ser	Val	Ala	Gly	Val	
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Phe	Gly	Asn	Ser	Phe	Gly	Asn	Gln	Asp	Pro	Pro	Leu	Asp	Pro	His	Val	
705					710					71						

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820					825					830				
Ala	Glu	Asp	Tyr	Leu	Glu	Val	Glu	Ile	Cys	Glu	Glu	Leu	Lys	Tyr
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Ala	Glu	Glu	Phe	Arg	Ile	Leu	Ser	Leu	Glu	Leu	Leu	Asp	His	Cys
		850					855					860		
His	Val	Asp	Asp	Ala	Gln	Thr	Leu	Gln	Leu	Leu	Thr	Tyr	Glu	Leu
865							870					875		880
Asn	Trp	Ser	Asn	Glu	Thr	Cys	Leu	Ala	Leu	Ala	Val	Ile	Val	Asn
				885					890					895
Lys	His	Phe	Leu	Ala	His	Pro	Cys	Cys	Gln	Ile	Leu	Leu	Ala	Asp
			900					905					910	
Trp	His	Gly	Gly	Leu	Arg	Met	Arg	Thr	His	Ser	Asn	Ile	Lys	Val
		915					920					925		
Leu	Gly	Leu	Ile	Cys	Pro	Pro	Phe	Ile	Gln	Met	Leu	Glu	Phe	Lys
		930					935					940		
Arg	Glu	Glu	Leu	Leu	Asn	Gln	Pro	Gln	Thr	Ala	Ala	Glu	His	Gln
945							950					955		960
Asp	Met	Asn	Tyr	Ser	Ser	Ser	Ser	Ser	Ser	Ser	Ser	Ser	Ser	Ser
				965					970					975
Ser	Ser	Ser	Ser	Ser	Asp	Ser	Ser	Ser	Ser	Phe	Glu	Asp	Asp	Asp
				980					985					990
Asn	Asn	Ala	His	Asn	His	Asp	Gln	Lys	Arg	Thr	Arg	Lys	Thr	Ser
		995					1000					1005		
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Arg	Arg	Lys	Ala	Lys	Lys	Asn	Glu	Lys	Cys	Asp	Arg	Glu	Thr	Asp
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Leu	Thr	Ala	Glu	Tyr	Gly	Thr	Phe	Gly	Glu	Ser	Asn	Gly	Val	Ser
		1055					1060					1065		
Pro	Pro	Pro	Pro	Tyr	Met	Arg	Ala	Asn	Ser	Arg	Ser	Arg	Tyr	Asn
		1070					1075					1080		
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Asp	Pro	Asn	Leu	Ser	Lys	Leu	Gln	Lys	Ser	Asn	Ile	Thr	Ser	Thr
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		1115					1120					1125		
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		1130					1135					1140		
Thr	Phe	Trp	Ser	Trp	Thr	Ile	Ser	Phe	Ile	Leu	Phe	Ile	Thr	Phe
		1145					1150					1155		
Phe	Thr	Tyr	Thr	Leu	Leu	Val	Lys	Thr	Pro	Pro	Arg	Pro	Thr	Val
		1160					1165					1170		
Ile	Glu	Tyr	Ile	Leu	Ile	Ala	Tyr	Val	Ala	Ala	Phe	Gly	Leu	Glu
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Gly	Ser	Val	Ala	Tyr	Gly	Arg	Val	Ile	Leu	Ala	Cys	Asp	Ser	Val
		1235					1240					1245		
Leu	Trp	Thr	Met	Lys	Leu	Leu	Asp	Tyr	Met	Ser	Val	His	Pro	Lys
		1250					1255					1260		
Leu	Gly	Pro	Tyr	Val	Thr	Met	Ala	Gly	Lys	Met	Ile	Gln	Asn	Met
		1265					1270					1275		

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Ser	Tyr	Ile	Ile	Val	Met	Leu	Val	Val	Thr	Leu	Leu	Ser	Phe	Gly
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Leu	Ala	Arg	Gln	Ser	Ile	Thr	Tyr	Pro	Asp	Glu	Thr	Trp	His	Trp
1295						1300					1305			
Ile	Leu	Val	Arg	Asn	Ile	Phe	Leu	Lys	Pro	Tyr	Phe	Met	Leu	Tyr
1310						1315					1320			
Gly	Glu	Val	Tyr	Ala	Asp	Glu	Ile	Asp	Thr	Cys	Gly	Asp	Glu	Ala
1325						1330					1335			
Trp	Asp	Gln	His	Leu	Glu	Asn	Gly	Gly	Pro	Val	Ile	Leu	Gly	Asn
1340						1345					1350			
Gly	Thr	Thr	Gly	Leu	Ser	Cys	Val	Pro	Gly	Tyr	Trp	Ile	Pro	Pro
1355						1360					1365			
Leu	Leu	Met	Thr	Phe	Phe	Leu	Leu	Ile	Ala	Asn	Ile	Leu	Leu	Met
1370						1375					1380			
Ser	Met	Leu	Ile	Ala	Ile	Phe	Asn	His	Ile	Phe	Asp	Ala	Thr	Asp
1385						1390					1395			
Glu	Met	Ser	Gln	Gln	Ile	Trp	Leu	Phe	Gln	Arg	Tyr	Lys	Gln	Val
1400						1405					1410			
Met	Glu	Tyr	Glu	Ser	Thr	Pro	Phe	Leu	Pro	Pro	Pro	Leu	Thr	Pro
1415						1420					1425			
Leu	Tyr	His	Gly	Val	Leu	Ile	Leu	Gln	Phe	Val	Arg	Thr	Arg	Leu
1430						1435					1440			
Ser	Cys	Ser	Lys	Ser	Gln	Glu	Arg	Asn	Pro	Ile	Leu	Leu	Leu	Lys
1445						1450					1455			
Ile	Ala	Glu	Leu	Phe	Leu	Asp	Asn	Asp	Gln	Ile	Glu	Lys	Leu	His
1460						1465					1470			
Asp	Phe	Glu	Glu	Asp	Cys	Met	Glu	Asp	Leu	Ala	Arg	Gln	Lys	Leu
1475						1480					1485			
Asn	Glu	Lys	Asn	Thr	Ser	Asn	Glu	Gln	Arg	Ile	Leu	Arg	Ala	Asp
1490						1495					1500			
Ile	Arg	Thr	Asp	Gln	Ile	Leu	Asn	Arg	Leu	Ile	Asp	Leu	Gln	Ala
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Lys	Glu	Ser	Met	Gly	Arg	Asp	Val	Ile	Asn	Asp	Val	Glu	Ser	Arg
1520						1525					1530			
Leu	Ala	Ser	Val	Glu	Lys	Ala	Gln	Asn	Glu	Ile	Leu	Glu	Cys	Val
1535						1540					1545			
Arg	Ala	Leu	Leu	Asn	Gln	Asn	Asn	Ala	Pro	Thr	Ala	Ile	Gly	Arg
1550						1555					1560			
Cys	Phe	Ser	Pro	Ser	Pro	Asp	Pro	Leu	Val	Glu	Thr	Ala	Asn	Gly
1565						1570					1575			
Thr	Pro	Gly	Pro	Leu	Leu	Leu	Lys	Leu	Pro	Gly	Thr	Asp	Pro	Ile
1580						1585					1590			
Leu	Glu	Glu	Lys	Asp	His	Asp	Ser	Gly	Glu	Asn	Ser	Asn	Ser	Leu
1595						1600					1605			
Pro	Pro	Gly	Arg	Ile	Arg	Arg	Asn	Arg	Thr	Ala	Thr	Ile	Cys	Gly
1610						1615					1620			
Gly	Tyr	Val	Ser	Glu	Glu	Arg	Asn	Met	Met	Leu	Leu	Ser	Pro	Lys
1625						1630					1635			
Pro	Ser	Asp	Val	Ser	Gly	Ile	Pro	Gln	Gln	Arg	Leu	Met	Ser	Val
1640						1645					1650			
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1655						1660					1665			
Met	Ser	Ile	Arg	Arg	Arg	His	Glu	Glu	Tyr	Thr	Ser	Ile	Thr	Asp
1670						1675					1680			
Ser	Ile	Ala	Ile	Arg	His	Pro	Glu	Arg	Arg	Ile	Arg	Asn	Asn	Arg
1685						1690					1695			
Ser	Asn	Ser	Ser	Glu	His	Asp	Glu	Ser	Ala	Val	Asp	Ser	Glu	Gly
1700						1705					1710			
Gly	Gly	Asn	Val	Thr	Ser	Ser	Pro	Arg	Lys	Arg	Ser	Thr	Arg	Asp

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1715	1720	1725
Leu Arg Met Thr Pro Ser Ser	Gln Val Glu Glu Ser	Thr Ser Arg
1730	1735	1740
Asp Gln Ile Phe Glu Ile Asp	His Pro Glu His Glu	Glu Asp Glu
1745	1750	1755
Ala Gln Ala Asp Cys Glu Leu	Thr Asp Val Ile Thr	Glu Glu Glu
1760	1765	1770
Asp Glu Glu Glu Asp Asp Glu	Glu Asp Asp Ser His	Glu Arg His
1775	1780	1785
His Ile His Pro Arg Arg Lys	Ser Ser Arg Gln Asn	Arg Gln Pro
1790	1795	1800
Ser His Thr Leu Glu Thr Asp	Leu Ser Glu Gly Glu	Glu Val Asp
1805	1810	1815
Pro Leu Asp Val Leu Lys Met	Lys Glu Leu Pro Ile	Ile His Gln
1820	1825	1830
Ile Leu Asn Glu Glu Glu Gln	Ala Gly Ala Pro His	Ser Thr Pro
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Lys Cys Ser Asp Val		
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 <213> Mus musculus

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 ggctgcaggc cgcgagggtg gaggaggagc cgctgccctt ccggagtccg ccccgtaggg 180
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 atgaaatact cagatgtgaa attgggtgaa cactttaacc aggcaataga agaatggtct 420
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 35 40 45
 Lys Gln His Ala Cys Phe Thr Ala Ser Leu Ala Met Lys Tyr Ser Asp
 50 55 60
 Val Lys Leu Gly Glu His Phe Asn Gln Ala Ile Glu Glu Trp Ser Val
 65 70 75 80
 Glu Lys His Thr Glu Gln Ser Pro Thr Asp Ala Tyr Gly Val Ile Asn
 85 90 95
 Phe Gln Gly Gly Ser His
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<210> 18
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cacctgggccc gcaactgtcct ctgcatcgac ttcattggtt tcacggtgcg gctgcttcac	240
atcttcacgg tcaacaaaca gctggggccc aagatcgta tcgtgagcaa gatgatgaag	300
gacgtgttct tcttctctct cttcctcggc gtgtggctgg tagctatggg ttggggccacg	360
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<400> 19

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Cys	Leu	Thr	Glu	Pro	Ala	Pro	Ala	Xaa	Tyr	Leu	Ala	Asp	Ser	Trp	Asn
			20					25					30		
Gln	Cys	Asp	Leu	Val	Ala	Leu	Thr	Cys	Phe	Leu	Leu	Gly	Val	Gly	Cys
		35					40					45			
Arg	Leu	Thr	Pro	Gly	Leu	Tyr	His	Leu	Gly	Arg	Thr	Val	Leu	Cys	Ile
	50					55					60				
Asp	Phe	Met	Val	Phe	Thr	Val	Arg	Leu	Leu	His	Ile	Phe	Thr	Val	Asn
65					70					75					80
Lys	Gln	Leu	Gly	Pro	Lys	Ile	Val	Ile	Val	Ser	Lys	Met	Met	Lys	Asp
				85					90					95	
Val	Phe	Phe	Phe	Leu	Phe	Phe	Leu	Gly	Val	Trp	Leu	Val	Ala	Met	Gly
			100					105					110		
Trp	Ala	Thr	Glu	Gly	Phe	Leu	Arg	Pro	Arg	Asp	Ser	Asp	Phe	Pro	Ser
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Ile	Leu	Xaa													
	130														

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<211> 389

<212> DNA

<213> Homo sapiens

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attttagga	cacagagata	gcatggattt	acagagggtt	aaagaaacat	caaacaagat	180
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tggatttact	gactgtcaca	gaacttccat	tcctgttcat	tcaaaacgag	aaaagatcag	300
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<210> 21

<211> 415

<212> DNA

<213> Homo sapiens

<400> 21

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aaccaataat	tccactatct	tatcagaaat	caaataccgt	ttatgtaagt	tgactcccat	180
gagttctaaa	ttgccattgt	gaggtcattt	tcggttaggc	tttaatttgt	tgcaaagtgt	240
tgcagctcag	ggtcaggaag	agtccctcca	gaaaggagga	tttgttactg	tgaatctctt	300
tgtaactaa	cctctttccc	cactgaaata	acttttttca	ataacatgat	tttaacaaca	360
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<211> 405

<212> DNA

<213> Mus musculus

<400> 22

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35     40     45
Ala Val Glu Leu Leu Glu Gln Ser Phe Arg Gln Asp Glu Thr Met Ala
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Met Lys Leu Leu Thr Tyr Glu Leu Lys Asn Trp Ser Asn Ser Thr Cys
65     70     75     80
Leu Lys Leu Ala Val Ser Ser Arg Leu Arg Pro Phe Val Ala His Thr
85     90     95
Cys Thr Gln Met Leu Leu Ser Asp Met Trp Met Gly Arg Leu Asn Met
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Arg Lys Asn Ser Trp Tyr Lys Val Ile Leu Ser Ile Leu Val Pro Pro
115    120    125
Ala Ile Leu Leu Leu Glu Tyr Lys Thr Lys Ala Glu Met Ser His Ile
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Pro Gln Ser Gln Asp Ala His Gln Met Thr Met Asp Asp Ser Glu Asn
145    150    155    160
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165    170    175
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Met Lys Ser Lys Lys Leu Pro Ile Thr Arg Lys Phe Tyr Ala Phe Tyr

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Gly Cys Leu Gly Gly Glu Asn Arg Phe Arg Leu Arg Leu Glu Ser Tyr
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Ile Ser Gln Gln Lys Thr Gly Val Gly Gly Thr Gly Ile Asp Ile Pro
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1210

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His	Thr	His	Leu	Leu	Leu	Val	Asp	Asn	Gly	Cys	His	Gly	His	Pro	Thr
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 Gly Gln Val Pro Ser Asp Val Asp Gly Thr Thr Tyr Asp Phe Ala His
 915 920 925
 Cys Thr Phe Thr Gly Asn Glu Ser Lys Pro Leu Cys Val Glu Leu Asp
 930 935 940
 Glu His Asn Leu Pro Arg Phe Pro Glu Trp Ile Thr Ile Pro Leu Val
 945 950 955 960
 Cys Ile Tyr Met Leu Ser Thr Asn Ile Leu Val Asn Leu Leu Val
 965 970 975
 Ala Met Phe Gly Tyr Thr Val Gly Thr Val Gln Glu Asn Asn Asp Gln
 980 985 990
 Val Trp Lys Phe Gln Arg Tyr Phe Leu Val Gln Glu Tyr Cys Ser Arg
 995 1000 1005
 Leu Asn Ile Pro Phe Pro Phe Ile Val Phe Ala Tyr Phe Tyr Met
 1010 1015 1020
 Val Val Lys Lys Cys Phe Lys Cys Cys Cys Lys Glu Lys Asn Met
 1025 1030 1035
 Glu Ser Ser Val Cys Cys Phe Lys Asn Glu Asp Asn Glu Thr Leu
 1040 1045 1050
 Ala Trp Glu Gly Val Met Lys Glu Asn Tyr Leu Val Lys Ile Asn
 1055 1060 1065
 Thr Lys Ala Asn Asp Thr Ser Glu Glu Met Arg His Arg Phe Arg
 1070 1075 1080
 Gln Leu Asp Thr Lys Leu Asn Asp Leu Lys Gly Leu Leu Lys Glu
 1085 1090 1095
 Ile Ala Asn Lys Ile Lys
 1100